Multi-Hazard Mitigation Plan

4.2 Vulnerability Assessment

Once the hazard identification step was complete, the CPT conducted a Vulnerability Assessment to describe the impact that each hazard identified in the preceding section would have upon Metropolitan Nashville-Davidson County. As a starting point, the CPT utilized the parcel data available from the Metro Planning Department and Property Assessor to define a baseline against which all other disaster impacts could be compared. The baseline is the catastrophic, worst-case scenario: the assessed value of the entire county as a whole.

Total Vulnerability of Metro Nashville-Davidson County to Catastrophic Disaster
Risk – Extremely Low; Vulnerability – Extremely High

The current total values of Metro Nashville-Davidson County, as maintained by the County Assessor's office are:

Table 4-25. Catastrophic Damages

Property Type	Total Number of Parcels	Number of Parcels with Improvement Value	Improvement Value
Bank / Finance	141	137	$66,455,454
Commercial	13,883	10,172	$7,734,104,702
Education	288	58	$50,101,743
Emergency / Medical	359	347	$1,158,952,778
Industrial	2,274	1,536	$1,695,920,348
Other (Government / Institutional)	2,029	514	$250,011,225
Residential – Mobile Home	245	242	$3,281,500
Residential – Mobile Home Park	53	53	$24,508,300
Residential	174,903	160,259	$17,425,028,318
Rural	10,939	7,258	$754,915,265
Telecommunications	96	33	$2,979,300
No Associated Land Use Code	1,624	0	0
TOTAL	206,834	180,609	$29,166,258,933

Critical Facilities

Of significant concern with respect to a catastrophic event is the location of critical facilities within the Community. Critical facilities as defined by the CPT include both those facilities: (1) essential in providing services during the response and recovery operations, and (2) those that house discrete populations that may require greater assistance in the event of a hazard. There are 837 critical facilities identified within Metropolitan Nashville-Davidson County.

Cultural Resources

Additional vulnerability to the catastrophic event includes the current sites on the Tennessee Register of Historic Sites and Structures (State Register) and the National Register of Historic Places as of June 2004 (see Table 4-26 below).

Table 4-26. Cultural Resources

Historic Place And Location	Period of Significance	Date listed on the National Register
Bush-Herbert Building 174 3rd Avenue, North	1900-1924	1982 Building - #82003959
Cartwright-Moss House Old Dickerson Pike, Goodlettsville	1800-1824, 1825-1849	1979 Building - #79002420
Geddes, James, Engine Company No. 6 629 2nd Avenue, South	1875-1899	1978 Building - #78002580
Marathon Motor Works Also known as Marathon Village; Nashville Cotton Mills; Phoenix Cotton Mills 1200--1310 and 1305 Clinton Street	1875-1899, 1900-1924	1996 Building - #95001482
Miles House 631 Woodland Street	1850-1874	1979 Building - #79002424
Newsom's Mill West of Nashville at Big Harpeth River	1850-1874	1976 Structure - #76001771
Primitive Baptist Church Also known as The College Street Primitive Baptist Church 627-629 3rd Avenue, South	1850-1874	1984 Building - #84003513
Sandbar Village Also known as Site Number 40 DV 36 Address Restricted	1000-500 AD, 1499-1000 AD	1994 Site - #9400074
Savage House 167 8th Avenue, North	1850-1874	1983 Building - #83003029
Shute-Turner House Also known as Shute, John A., House 4112 Brandywine Point Boulevard	1825-1849	2002 Building - #97001138
Southern Methodist Publishing House Also known as 810 Broadway Building 810 Broadway	1900-1924	1984 Building - #84003519
Tennessee Manufacturing Company Also known as Werthan Bag Company 1400 Eighth Avenue, North	1850-1874, 1875-1899, 1900-1924, 1925-1949	1999 Building - #99000759

D R A F T

Natural Resources

Additional vulnerability to the catastrophic event would include the current listing of natural resources within Metropolitan Nashville-Davidson County. Those species listed below are identified as endangered, threatened, and rare species documented within Metropolitan Nashville-Davidson County by the Tennessee Department of Environment and Conservation.

Table 4-27. Natural Resources

Scientific Name	Common Name	Federal Status[1]	State Status[2]
PLANTS			
ALLIUM STELLATUM	Glade Onion		E
AMMOSELINUM POPEI	Pope's Sand-parsley		T
AMSONIA TABERNAEMONTANA VAR GATTINGERI	Limestone Blue Star		S
ANEMONE CAROLINIANA	Carolina Anemone		E
APIOS PRICEANA	Price's Potato-bean	LT	E
ARABIS PERSTELLATA	Braun's Rockcress	LE	E
ARABIS SHORTII	Short's Rock-cress		S
ASTER PRAEALTUS	Willow Aster		E
ASTRAGALUS BIBULLATUS	Pyne's Ground-plum	LE	E
ASTRAGALUS TENNESSEENSIS	Tennessee Milk-vetch		S
CAREX DAVISII	Davis' Sedge		S
CAREX HIRTIFOLIA	Pubescent Sedge		S
CASTANEA DENTATA	American Chestnut		S
CIMICIFUGA RUBIFOLIA	Appalachian Bugbane		T
CRATAEGUS HARBISONII	Harbison's Hawthorn		E
DALEA CANDIDA	White Prairie-clover		S
DALEA FOLIOSA	Leafy Prairie-clover	LE	E
ECHINACEA TENNESSEENSIS	Tennessee Coneflower	LE	E
ELYMUS SVENSONII	Svenson's Wild-rye		E
ERYSIMUM CAPITATUM	Western Wallflower		E
EVOLVULUS NUTTALLIANUS	Evolvulus		S
HELIANTHUS EGGERTII	Eggert's Sunflower	LT	T
HYDRASTIS CANADENSIS	Goldenseal		S-CE
JUGLANS CINEREA	Butternut		T
LEAVENWORTHIA EXIGUA VAR EXIGUA	Glade-cress		S
LESQUERELLA DENSIPILA	Duck River Bladderpod		T
LESQUERELLA GLOBOSA	Short's Bladderpod	C	E
LILIUM CANADENSE	Canada Lily		T
LILIUM MICHIGANENSE	Michigan Lily		T
LONICERA FLAVA	Yellow Honeysuckle		T
LONICERA PROLIFERA	Grape Honeysuckle		E-P
MIRABILIS ALBIDA	Pale Umbrella-wort		T
PANAX QUINQUEFOLIUS	American Ginseng		S-CE
PERIDERIDIA AMERICANA	Thicket Parsley		E
PHLOX BIFIDA SSP STELLARIA	Glade Cleft Phlox		T

D R A F T

Scientific Name	Common Name	Federal Status[1]	State Status[2]
POLYTAENIA NUTTALLII	Prairie Parsley		T
POPULUS GRANDIDENTATA	Large-tooth Aspen		S
RANUNCULUS AQUATILIS VAR DIFFUSUS	White Water-buttercup		E
SCHOENOLIRION CROCEUM	Yellow Sunnybell		T
STELLARIA FONTINALIS	Water Stitchwort		T
TALINUM CALCARICUM	Limestone Fame-flower		S
TRIFOLIUM REFLEXUM	Buffalo Clover		E
VITIS RUPESTRIS	Sand Grape		E
ZANTHOXYLUM AMERICANUM	Northern Prickly-ash		S
INVERTEBRATES - Crustaceans			
ORCONECTES SHOUPI	Nashville Crayfish	LE	E
INVERTEBRATES - Mollusks			
EPIOBLASMA BREVIDENS	Cumberlandian Combshell	LE	E
EPIOBLASMA FLORENTINA WALKERI	Tan Riffleshell	LE	E
VERTEBRATES - Amphibians			
AMBYSTOMA BARBOURI	Streamside Salamander		D
CRYPTOBRANCHUS ALLEGANIENSIS	Hellbender		D
VERTEBRATES - Birds			
AIMOPHILA AESTIVALIS	Bachman's Sparrow		E
DENDROICA CERULEA	Cerulean Warbler		D
FALCO PEREGRINUS	Peregrine Falcon	(PS:	E
IXOBRYCHUS EXILIS	Least Bittern		D
THRYOMANES BEWICKII	Bewick's Wren		E
TYTO ALBA	Common Barn-owl		D
VERTEBRATES - Fishes			
ACIPENSER FULVESCENS	Lake Sturgeon		E
CYCLEPTUS ELONGATUS	Blue Sucker		T
ETHEOSTOMA LUTEOVINCTUM	Redband Darter		D
ETHEOSTOMA MICROLEPIDUM	Finescale Darter		D
ICHTHYOMYZON UNICUSPIS	Silver Lamprey		D
PERCINA PHOXOCEPHALA	Slenderhead Darter		D
VERTEBRATES - Mammals			
NEOTOMA MAGISTER	Eastern Woodrat		D
ZAPUS HUDSONIUS	Meadow Jumping Mouse	(PS)	D
VERTEBRATES - Reptiles			
MACROCLEMYS TEMMINCKII	Alligator Snapping Turtle		D
OPHISAURUS ATTENUATUS LONGICAUDUS	Eastern Slender Glass Lizard		D

[1] Federal Status is defined as:

LE - **Listed Endangered**, the taxon is threatened by extinction throughout all or a significant portion of its range.

LT - **Listed Threatened**, the taxon is likely to become an endangered species in the foreseeable future.

C - **Candidate Species**, These "Candidate" species are not currently proposed for listing, but development and publication of proposed rules for such candidate species is anticipated. The US Fish and Wildlife Service has on file sufficient information on biological vulnerability and threat(s) to support proposals to list them as endangered or threatened species. The US Fish and Wildlife Service will determine the relative listing priority of these candidate species, and encourages other agencies, groups and individuals to give consideration to these taxa in environmental planning.

D R A F T

(PS) - Partial Status (based on taxonomy) Taxon which is listed in part of its range, but for which Tennessee subspecies are not included in the Federal designation

(PS:status) - Partial Status (based on political boundaries) Taxon which is listed in part of its range, but for which Tennessee populations are not included in the Federal designation e.g.

[2] State Status is defined as:

E - Endangered Species means any species or subspecies of plant whose continued existence as a viable component of the state's flora is determined by the Commissioner to be in jeopardy, including but not limited to all species of plants determined to be "endangered species" pursuant to the Endangered Species Act.

T - Threatened Species means any species or subspecies of plant which appears likely, within the foreseeable future, to become endangered throughout all or a significant portion of its range in Tennessee, including but not limited to all species of plants determined to be a "threatened species" pursuant to the Endangered Species Act.

S - Special Concern Species means any species or subspecies of plant that is uncommon in Tennessee, or has unique or highly specific habitat requirements or scientific value and therefore requires careful monitoring of its status.

D - "Deemed in Need of Management" Any species or subspecies of nongame wildlife which the executive director of the TWRA believes should be investigated in order to develop information relating to populations, distribution, habitat needs, limiting factors, and other biological and ecological data to determine management measures necessary for their continued ability to sustain themselves successfully. This category is analogous to "Special Concern."

P - **Possibly Extirpated** species or subspecies that have not been seen in Tennessee for the past 20 years. May no longer occur in Tennessee.

CE - **Commercially Exploited** due to large numbers being taken from the wild and propagation or cultivation insufficient to meet market demand. These plants are of long-term conservation concern, but the Division of Natural Heritage does not recommend they be included in the normal environmental review process.

D R A F T

Historic and Natural Resources are important to identify pre-disaster for three reasons:

1. The community may decide that these sites are worthy of a greater degree of protection than currently exists, due to their unique and irreplaceable nature;
2. Should these resources be impacted by a disaster, knowing so ahead of time allows for more prudent care in the immediate aftermath, when the potential for additional impacts are higher; and
3. The rules for repair, reconstruction, restoration, rehabilitation and/or replacement usually differ from the norm.

Development Trends for Metro Nashville

According to *Concept 2010: A General Plan for Nashville and Davidson County*, community growth during the latter half of the 20th century has involved decentralization of commercial and residential activities and continued centralization of office and industrial employment areas. The resulting pattern includes outlying shopping areas, a dominant downtown office and employment concentration, and a range of smaller commercial and industrial locations distributed widely throughout the community.

Within Davidson County there are not only urban development issues, but also suburban and rural development issues as well. In effect, Nashville is confronted with several different planning environments, each with its own separate concerns. Rural parts of the county that are not expected to develop in the next twenty years require protection from untimely development. In predominately open areas that are beginning to develop, the provision of infrastructure and urban services, as well as the appropriateness of development, are major issues. In developed sections of the county, primary planning concerns include service delivery and development compatibility. Finally, bypasses and re-developable tracts need to be integrated into the existing urban fabric at the proper level of intensity.

Planning is expected to focus on creating a more efficient overall urban pattern which minimizes land use conflicts and traffic congestion while facilitating cost effective urban service delivery. Planning for a more efficient urban structure will include:

- The organization of an urban structure that will lend itself to the widespread use of public transportation and other alternatives to single occupancy automobiles;

- Preservation and enhancement of the unique functions of downtown;

- Creation of several centers of commercial, industrial, and residential activity, each with its own specialized functions; and

- Facilitating an orderly pattern of residential growth with appropriate densities.

Vulnerability of Metro Nashville-Davidson County to more Probable Disasters

On a more realistic scale, community vulnerability can be quantified in those instances where there is a known, identified hazard area, such as a mapped floodplain. In these instances the numbers and types of buildings subject to the identified hazard can be counted and their values tabulated. Further, other information can be collected, such as the location of critical community facilities (e.g., a fire station), historic structures, and valued natural resources (e.g., an identified wetland or endangered species habitat) that are within the specific hazard area. Together, these values portray the impact, or *vulnerability*, of that area to that hazard.

However, it is important to note that these values could be refined one step further, with regard to the percent of probable impact. For example, when a flood occurs, seldom does the event cause the total destruction of an area. In fact, we know from NFIP insurance claims, that a flood with an average depth of 2-feet above the ground, is likely to cause approximately 20% damage to structures in the aggregate (those with basements, no basements, and second stories). Thus, if the 100-year flood were estimated to be 2-feet deep, a more accurate description of flood vulnerability would be a 1% annual chance of incurring a loss of 20% of the values tabulated in the 100-year floodplain --- and this is without the additional impacts of damage to infrastructure and economic disruption. This allows a community to measure the cost-effectiveness of alternative mitigation projects under consideration. The benefits of a mitigation project are the future losses avoided --- or, in this example, that portion of the value of the 1% annual chance of 20% damage that is protected by the project.

The CPT identified one hazard within Metro Nashville-Davidson County where specific geographical hazard areas have been defined: flood. For this hazard area, the CPT has inventoried the following as a means of quantifying the vulnerability within the hazard area:

- Total Values at Risk (i.e., Types, numbers, and value of land and improvements);
- Identification of Critical Facilities at risk;
- Identification of Cultural and Natural Resource Sites at risk;
- Development Trends within the identified hazard area; and
- A general statement of community impact.

For the other hazards identified in the preceding section, information is available where the potential impacts can be developed or inferred, although it is not tied to a county specific location. For these hazards, such as severe weather and drought, the entire County is at risk. In some cases, certain hazard characteristics suggest varying degrees of risk within different areas of Metro Nashville-Davidson County. For example:

- In earthquakes, certain soils are more susceptible to shaking than others, and certain types of building construction are more likely to sustain damage than others. Thus, in areas with higher concentrations of these types of soils or these types of buildings, greater damages can be expected. Any area that included *both* risky soils and vulnerable construction would be most likely to incur the greatest level of damage and disruption.

- West Nile Virus is spread through mosquito bites. Thus, people and livestock frequenting areas with the greatest concentration of mosquitoes, and during the times of greatest

concentration, are most likely to become infected. Areas with standing water are where mosquitoes breed, and therefore are an area of higher risk. Standing water can be found in swimming pools, ponds, birdbaths, ditches, and old spare tires – so the risk areas could be in many locations and in differing concentrations.

Table 4-28 presents the probable risk and vulnerability for identified hazards within the community.

Table 4-28. Summary of Probable Hazard Risk and Vulnerability

Hazard	Risk	Vulnerability
Drought	Low	Low
Earthquake	Low	Low
Floods	High	High
Geological Hazards	Moderate	Low
Severe Weather	High	High
Natural Biological Hazards	Low	Low

DROUGHT

Risk – Low; Vulnerability – Low

The seasonal outlook as prepared by the Climate Prediction Center, does not predict the Metro Nashville-Davidson County area likely to be entering a period of drought in the near future.

The main water supply is the Cumberland River. The two water treatment plants, Omohundro and K. R. Harrington, have a daily capacity output of 162 million gallons per day. On an average day, both plants pump 78 million gallons. If one plant is out of service, the other can supply the entire community's water needs.

EARTHQUAKE

Risk – Low; Vulnerability – Low

Based on historic and scientific information, the risk to Metro Nashville-Davidson County from earthquakes is low.

A site specific evaluation of the vulnerability of Metro to earthquakes was performed by AMEC using the HAZUS software program. HAZUS-MH**,** is a nationally applicable standardized methodology and software program that contains models for estimating potential losses from earthquakes, floods, and hurricane winds. HAZUS-MH was developed by the Federal Emergency Management Agency (FEMA) under contract with the National Institute of Building Sciences (NIBS). NIBS maintains committees of wind, flood, earthquake and software experts to provide technical oversight and guidance to HAZUS-MH development.

Loss estimates produced by HAZUS-MH are based on current scientific and engineering knowledge of the effects of hurricane winds, floods, and earthquakes. Estimating losses is essential to decision-making at all levels of government, providing a basis for developing mitigation plans and policies on or regarding emergency preparedness, and response and recovery planning.

The study utilized 2000 Census Bureau data for the region with the following assumptions:

- New Madrid Fault
- 7.5 Magnitude at 10 KM depth;
- 525 square mile region with 144 census tracts;
- 237,000 households;
- Population of 569,891 people;
- 181,000 buildings within the region;
- Total building replacement cost of 44,665 million dollars; and
- Approximately 97% of the buildings (and 76% of the building value) are associated with residential housing.

Table 4-29. Earthquake Hazard Damages

Impacts / Earthquake	7.5 at 10 KM Depth
Residential Bldgs. Damaged *(Based upon 181,898 buildings)*	0.0
Injuries *(Based upon 569,891 people)*	0.0
Displaced Households	0.0
Economic Loss	0.0
Damage to Schools *(Based upon 194 buildings)*	0.0
Damage to Hospital	0.0
Damage to Transportation Systems	0.0
Households w/out Power & Water Service *(Based upon 2374,000 households)*	0.0
Debris	0.0

Common impacts from earthquakes include damages to infrastructure and buildings (e.g., unreinforced masonry [brick] crumbling; architectural facades falling; underground utilities breaking, gas-fed fires; landslides and rock falls; and road closures). Less common, but possible damages would include dam failures and subsequent flash floods. However, with the distance of Metro Nashville from any major fault lines, the impact from an earthquake at the New Madrid fault would be minimal.

FLOOD

Risk – High; Vulnerability – High

In order to determine vulnerability, the 100-year floodplain map was overlain onto the Metro parcel data. The properties that intersected the floodplain were then queried for property improvements greater than $0.00. Improvement values are tied to the parcel data, not to building footprints. This gave an indication of an improvement to a piece of property that touched the floodplain, i.e. count of structures in floodplain. There are approximately 12,040 parcels which intersect the floodplain with an improvement value greater than $0.00. These properties represent approximately 7% of the properties of Metropolitan Nashville and Davidson County (See Table 4-30).

There are twenty-two (22) critical facilities, as defined by the Office of Emergency Management and the Metropolitan Police Department, located within the floodplain. These facilities include:

- St. Thomas Hospital;
- Metro Police Department South Precinct;
- Omohundro Drive Plant;
- County Government Complex;
- Whites Creek High School;
- Nashville State Technical Institute;
- WNQM AM 1300;
- WUPX UPN 30;
- WVOL AM 1470;
- Williams Energy Ventures (4);
- Marathon Ashland Petroleum (4);
- BP Amoco Oil;
- Citgo Petroleum Company;
- Perk's Products & Chemical Company;
- Dupont; and
- K.R. Harrington.

Additionally, 70 repetitive loss structures located are within the 100-year floodplain. Repetitive loss structures are those structures, which have been paid two flood insurance claims of $1,000 or more within any 10-year period since 1978.

Table 4-30. Analysis of Parcels Located within the 100-Year Floodplain

Property Type	Total Number of Parcels	Number of Parcels with Improvement Value	Improvement Value
Bank / Finance	8	7	$3,187,400
Commercial	1,163	748	$1,378,242,995
Education	35	3	$3,856,543
Emergency / Medical	11	10	$138,110,000
Industrial	510	343	$538,887,400
Other (Government / Institutional)	198	51	$58,272,994
Residential – Mobile Home	27	27	$548,000
Residential – Mobile Home Park	12	12	$13,248,500
Residential	10,930	9,385	$1,034,528,875
Rural	2,281	1,451	$157,025,560
Telecommunications	9	3	$2,222,600
No Associated Land Use Code	236	0	$3,187,400
TOTAL	15,420	12,040	$3,331,318,267

Of the 206,834 parcels located within the Metro area, 15,420 are located within the 100-year floodplain. This represents in seven percent of the total properties. Similarly of the total $29.1 billion in improvement values, $3.3 billion are located within the 100-year floodplain. This represents in eleven percent of the total property value of the community being located within the 100-year floodplain.

GEOLOGICAL HAZARDS

Risk – Moderate; Vulnerability –Low

Landslides

The locations of historical landslides (See Figure 4-11, Section 4.1) were utilized to determine the vulnerability of the Metro area to future landslides. A 50-foot radius from the point of the landslide was overlain onto the Metro parcel data. The properties that intersected the radii were then queried for property improvements greater than $0.00. This gave an indication of an improvement to a piece of property that touched the identified sites. There are approximately 50 properties which intersect the landslide areas with an improvement value greater than $0.00. These properties represent approximately 0.04% of the properties of Metropolitan Nashville and Davidson County (See Table 4-31). There are no critical facilities, as defined by the Office of Emergency Management and the Metropolitan Police Department, located within this specific geological hazard areas.

Delineation of the Dellrose soils has not been completed for Davidson County. This information cross-referenced with steep slopes would provide an even more accurate estimation of vulnerability to landslides.

Table 4-31. Geological Hazard Damages

Property Type	Total Number of Parcels	Number of Parcels with Improvement Value	Improvement Value
Bank / Finance	0	0	0
Commercial	3	0	0
Education	0	0	0
Emergency / Medical	0	0	0
Industrial	0	0	0
Other (Government / Institutional)	2	1	$5,772,800
Residential – Mobile Home	0	0	0
Residential – Mobile Home Park	0	0	0
Residential	43	43	$767,1900
Rural	1	1	$245,500
Telecommunications	0	0	0
No Associated Land Use Code	1	0	0
TOTAL	50	45	$13,690,200

Of the 206,834 parcels located within the Metro area, 50 are located within a 50-foot radius of identified landslide locations. This results in 0.02 percent of the total properties. Similarly of the total $29.1 billion in improvement values, $13 million are located within a 50-foot radius of the identified landslide locations. This results in 0.04 percent of the total property value being located adjacent to an identified landslide area.

SEVERE WEATHER

(Extreme Temperature, Thunderstorms, Tornadoes, and Winter Storms)
Risk – High; Vulnerability – High

The severe weather evaluated as part of this risk assessment included: extreme temperatures, thunderstorms and lightning, tornadoes, and winter storms. In general, both the risk and vulnerability to Metro Nashville-Davidson County from severe weather is high, all of the presidential disaster declarations for Davidson County since 1994 have been a result of severe storms and tornadoes.

Impacts to Metro Nashville-Davidson County as a result of severe weather could include damage to infrastructure, particularly overhead power lines, road closures, and interruption in business and school activities. Utility outages can impact anything relying on electricity without a redundant power supply (e.g., a generator), and include secondary impacts such as interruption to water and sewage services, heat and refrigeration, fuel supplies, computers and cell phones. If interruption to business occurs for an extended period, economic impacts can be severe. Also of concern would be the impact to populations with special needs such as the elderly and those requiring the use of medical equipment. Although typically short-lived, delays in emergencies response services can also be of concern. Depending on the nature of a given storm, all areas within Metro Nashville-Davidson County are equally at risk; however, those areas relying on above ground utilities would potentially suffer the greatest damage.

Tornadoes

There are 70 pole-mounted sirens utilized by OEM to warn residents of severe weather tornadoes. The sirens are designed to warn those people located outdoors and in public gathering places, such as parks or in the downtown business area. The warning sound from each siren is audible within a one-half mile to 1 1/2 mile radius, depending upon the terrain, humidity, foliage and background noise, such as wind and rain

Figure 4-25 presents the siren locations with a one-mile radius. The greatest concentration of sirens is the downtown / central area of Metro. Areas such as Bellevue and Joelton have less coverage.

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D R A F T

NATURAL BIOLOCIAL HAZARDS

West Nile Virus: Risk – Low; Vulnerability – Low

Both the risk and vulnerability to Tennessee from West Nile Virus (WNV) is considered low, based on the percentage of total population that actually contracts the disease. The first appearance of WNV in North America occurred in 1999. As of August 2003, WNV has been documented in 46 states and the District of Columbia. Positive cases of West Nile Virus in Metro Nashville-Davidson County were first reported in 2002 in birds, humans, and veterinary animals. According to the Tennessee State Department of Health, the number of confirmed human cases for the State for 2001, 2002, 2003 and 2004 are 1, 141, 103, and 1, respectively. This is consistent with the natural trends that indicate the second year of exposure to WNV is the worst.

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